

Tools

Answer Garden

Have the right STEM inquiry question. Use Answer garden to gather student feedback including need to know ideas, possible answers, reflection, or new questions. Best of all take the results and make automatically make a word cloud with Tagxedo or Wordle.

Aurasma

Create fun, "augmented reality" interactive content on your iPhones, iPads and high-powered Android devices using Aurasma. Aurasma uses advanced image and pattern recognition to blend the real-world with rich content such as videos and animations called "Auras".

Blendspace

This amazing tool is one of the easiest ways to blend the classroom with digital content. Teachers can collect and organize web resources in one place and share with just one link. It is also possible to assess students and measure student understanding with built-in quizzes. There are even tools to monitor student progress while adapting to individual needs in real-time. The easy drag and drop interface allows a STEM lesson to be completed in 5 minutes!

BioCube

This is a wonderful resource from the people Read Write Think. Explore this tool and you will find ways to use it in the STEM classroom. Of special interest might include a way to incorporate the Make Your Own Cube section. This will get your STEM thinking cap going in a literacy way!

CAST Science Writer

Discover this amazing UDL tool from the people at CAST. It supports students in writing lab and class reports. This tool is geared toward middle school and high school students. Science Writer enables students to demonstrate their knowledge of science concepts through writing, structures the writing processes as it relates to content-area writing, structures the thought process required for scientific writing, provides opportunities for structured practice and utilizes the Universal Design for Learning (UDL) Framework to meet the needs of a wide range of students. Max and Sam give students a model and the reasoning behind it, and Eko gives students specific hints on how to progress.

Chirp

Chirp is an incredible new way to share information - using sound. Chirp sings information from one iPhone to another.

Class Dojo

Helps teachers improve behavior in their classrooms quickly and easily. It also captures and generates data on behavior that teachers can share with parents and administrators.

Classroom Timer

A Simple timer, designed for teachers or anyone else who needs to set timed tasks for groups of children in a classroom or similar environment. Displays an alarm clock graphic that counts down time.

Coach's Eye

Analyze video on your computer, iPhone or iPad with Coach's Eye. Coach's Eye allows you to zoom, slow-motion and draw on videos to highlight small details to your students.

Decide Now!

An app for iPhone and iPad that allows students to "spin the wheel" and the app will choose from a variety of categories that you input into the app. It can be used to add a fun element to quizzing students, by allowing them to "spin the wheel" and then answer questions on the category the wheel lands on.

Desmos Online Calculator

This free, online graphing calculator is ideal for class presentations. A free registration allows you to save your documents/graphs/calculations.

Diffen

Examine a tool that can facilitate great class discussions along with individual reflection. Discover amazing possibilities allowing students to compare and contrast just about anything.

Diigo

Diigo is a multi-tool for personal knowledge management that aims to improve workflow and productivity, intuitively.

Edmodo

Provides teachers and students a secure place to connect and collaborate, share content and educational applications, and access homework, grades, class discussions and notifications.

EduCanon

This incredible tool allows teachers to use their created videos or ones they find online and make them interactive for their students. It really is a great way to provide formative learning and assessment since online classrooms can be set up to monitor usage and answers.

EduCreations

Educreations is a recordable interactive whiteboard that captures your voice and handwriting to produce amazing video lessons that you can share online. Students and colleagues can replay your lessons in any web browser, or from within our app on their iPads.

Evernote

Evernote makes it easy to remember things big and small using your computer, phone, tablet and the web.

Game Show Soundboard

An app for iPhone and iPad that produces game show sounds. This app can make quizzing students fun, allowing you to reward correct answers with a "DING DING DING!" sound.

Google Tools

Google offers a wide range of free tools that educators can use to enhance their teachings including Google Maps, Earth, Book Search, SketchUp, etc.

GreenScreen Movie Fx

Easily create a movie with your students using your iPhone, iPad or iPod touch. GreenScreen Movie FX puts the power of a Hollywood special effects studio in your pocket (well, almost!).

Guided Access

Guided Access helps students with disabilities such as autism remain on task and focused on content while using an iOS device, such as an iPad. It allows a parent, teacher, or administrator to limit an iOS device to one app by disabling the Home button, as well as restrict touch input on certain areas of the screen.

iBanner HD for iPad

iBanner HD produces a scrolling marquee allowing you to input data and deliver fun messages to your students on your iPad.

iCab Mobile

iCab Mobile is a web browser for the iPhone®, iPod Touch® and the iPad®. It provides many features which makes surfing in the web much easier.

iMovie

iMovie makes it easy to turn your home videos into your all-time favorite films. You can also store and organize your videos by event, similar to photo albums.

Kahoot

Take a moment to explore this classroom based gaming system. STEM educators can motivate student participation through game-based learning and rewards in a social yet academic setting. It just might help your students advance to the very next level of learning.

Kidblog

Built by teachers, for teachers, so students can get the most out of the writing process. As students become creators - not just consumers - of information, the crucial role of teachers as discussion moderators and content curators in the classroom is very important. With Kidblog, teachers monitor and control all activity within their classroom blogging community. Using a tool like this is a great way tool to get those STEMversations going in the classroom.

Leaf Snap

This free mobile app uses visual recognition software to help identify tree species from photographs you take of their leaves. It contains beautiful high-resolution images of leaves, flowers, fruit, petiole, seeds, and bark. The collection currently includes trees of the Northeast and will soon grow to include the trees of the entire continental United States.

LiveBinders

A way to curate and present your resources quickly and simply by placing all electronic information in one place. Free registration.

LiveMinutes

Free collaborative meeting service focused on Document Sharing. When sharing, everyone can videochat, look at the same slide at the same time and annotate documents in real time.

MIT+K12

K12 educators and MIT partner to make educational movies. Educators can make requests and search for a variety of STEM-related videos.

MIT Blossoms

Video lessons enrich students' learning experiences in high school classrooms from Brooklyn to Beirut to Bangalore. The Video Library contains over 50 math and science lessons, all freely available to teachers as streaming video and Internet downloads and as DVDs and videotapes.

Mosa Mack: Science Detective

Mosa Mack: Science Detective is a series of short animated science mysteries that redefines the image of a scientist. In each episode, Mosa uses critical thinking skills to solve each mystery and shows students that scientific thinking is a part of their everyday lives.

NearPod

This free app for iOS devices allow teachers to create digital presentations and digitally interact with their students in real time.

PHET

Explore these very best of Interactive Science Simulations they are fun, interactive, research-based simulations of physical phenomena from the PhET project at the University of Colorado.

PickMe!Buzzer

This app allows you and your students to use your iOS devices to operate as buzzers. Your students can use their iPhone or iPad as a remote to "buzz in" to answer questions, similar to Jeopardy.

PrintFriendly

Turn any web information resource into a manageable document that can be archived in your e-curriculum. Print Friendly allows anyone to turn cluttered yet amazing resources into a PDF file that can be posted digitally or printed.

Pulse of the Planet

Each weekday, this radio series provides listeners with a two-minute sound portrait of Planet Earth, tracking the rhythms of nature, culture and science worldwide, blending interviews with extraordinary natural sound.

Puppet Pals HD

Create your own unique shows with animation and audio in real time on your iPad! Simply pick out your puppet actors and backdrops, drag them on to the stage, and tap record. Your movements and audio will be recorded in real time for playback later.

Rubistar

This is a wonderful free tool, supported by a grant funded by the U.S. Department of Education. Its goal is to help educators with the creation of assessment rubrics for a wide variety of student activities. There are numerous STEM possibilities that will guide student learning and assessment.

Screenleap

STEM teachers can find this a great tool to share screens throughout the classroom. Screenleap currently offers two types of screen sharing: desktop screen sharing and browser sharing. Desktop screen sharing is where one shares a computer screen with other people. Browser sharing is a special type of screen sharing where one only shares only the contents of the browser window.

Scrumy

This free tool can help students manage their ongoing PBL groups while keeping the teacher informed of class progress. It really is an effective classroom management tool providing a real sense of accountability for important student collaboration.

Socrative

Socrative allows teachers to digitally play games and ask questions to their students in real time using tablets, smart phones and laptops. The teacher controls the flow of a variety of questions and games available on Socrative.

SonicPics

Create and record custom photo slideshows on your iPhone, iPod Touch or iPad and share them with your students.

STEM Education Data Trends

How well prepared are the students in your state in science and mathematics? Am I doing enough to help my students? What are the various career opportunities in science and engineering fields? How much do science and engineering workers really earn? This website from NSF allows anyone to explore the answers to these and other questions, by providing easy access to data on science, technology, engineering, and mathematics (STEM) education and related careers.

Stoodle

Classrooms of educators and students can now access this incredible interactive whiteboard made available by CK-12 Foundation. You will find real-time collaboration on a virtual whiteboard with infinite pages, real-time communication through voice conferencing and text chat. It also includes permanent storage of all classrooms for later access, support for image uploading, and access to basic drawing tools and colors.

Strip Designer

With Strip Designer you can create your own personal comic strip right on your iPhone or iPad.

Symbaloo

A unique visual bookmarking tool that helps users keep their favorite links in order.

Tagxedo

Do you enjoy making word clouds and are looking for a tool that allows you to assign the shape and even save the image as a jpeg? There are many ways Word Clouds can be used in the STEM Classroom. Take a moment to explore Tagxedo and then design your own STEM Word Cloud Lesson.

TeacherKit

An app for iPhone, iPad & iPod touch, TeacherKit is a personal organizer for the teacher. It enables the teacher to organize classes, and students. It's simple and intuitive interface enables teachers to track the attendance, grades and behavior of students.

The Differentiator

This unique tool is based on Bloom's Taxonomy and allows teachers to ask the right STEM based question! You will find it provides focus, probing, essential, and a driving aspect to any question. This is bound to put the action verb into any STEM classroom lesson design.

The Periodic Table of Videos

Fun, informative videos that cover each element of the periodic table.

Too Noisy

An app for iPhone and iPad that is a noise level meter built for the classroom. The app has been designed to assist a teacher to keep control of general noise levels in a classroom using a visual stimulus.

Trading Cards

Another wonderful tool from read Write Think. Students can make their own trading cards. They can be based on concepts, people, objects, places, or any other idea that relates to your STEM content. Print them off and use them in an activity.

Visual Ranking Tool

Explore this amazing tool that allows teachers to set up a classroom where students work independently or in groups to rank tools, concepts, and ideas. Not only can students rank but they can embed reasoning and compare their conclusions with others. Best of all, it is all observable and recordable by the teacher. A great STEM resource!

Virtual Cell

Students can explore the amazing cell and the processes contained within it by taking a guided virtual journey.

Wikispaces

Wikispaces makes managing class a breeze, with tools to handle day-to-day work and features to tackle the special activities. Educators can get free, private, secure space for their class.

Wolfram Alpha

Introduces a fundamentally new way to get knowledge and answers-not by searching the web, but by doing dynamic computations based on a vast collection of built-in data, algorithms, and methods.

Wordle

Tool used for generating "word clouds" which give greater prominence to words that appear more frequently in the source text. Educators can tweak their clouds with different fonts, layouts, and color schemes for their classroom.

Sites & Initiatives

Arts Edge

Looking to turn STEM to STEAM by including the Arts? Check out this fantastic resource from the Kennedy Center hosting numerous lessons that integrate Art in the curriculum. You will find yourself promoting true innovation as you link your STEM curriculum into the Arts.

BEN

Also known as Bioscinet, the BEN Portal provides access to education resources from BEN Collaborators and is managed by the American Association for the Advancement of Science (AAAS). Over 19,290 reviewed resources covering 77 biological sciences topics are available. BEN resources will help engage student interest, shorten lesson preparation time, provide concept updates, and develop curricula that are aligned with national standards for content.

Beyond the Chalkboard

This site from the Boston Children's Museum provides activities that cover a wide range of subjects including science, literacy, culture, art, health, math, and engineering in ways that support what's learned during the school day. It is also a great site that also facilitates those important 21st century skills.

Caine's Arcade

Caine's Arcade is a short film about a 9 year old boy's cardboard arcade, located in his dad's used auto parts store in East LA. An amazing use of engineering and imagination!

Citizen Science

Visit this scientific research collection conducted, in whole or in part, by non-professional scientists. You will discover that people just like you have helped look for asteroids, track migrating birds, and analyze fossilized shark teeth. If you enjoy doing science and would like to make important contributions to the scientific community, consider participating in one or more of the exciting citizen science projects.

Code

Educators interested in computer programming need to visit this site dedicated to expanding participation in computer science. The vision of CODE is that every student in every school should have the opportunity to learn computer programming. STEM educators will discover ways to integrate core curriculum in education, alongside other science, technology, engineering, and mathematics (STEM) courses, such as biology, physics, chemistry and algebra.

Computer Science Unplugged

CS Unplugged is a wonderful collection of free learning activities that teach Computer Science through engaging games and puzzles that use cards, string, crayons and lots of running around. The activities introduce students to underlying STEM concepts such as binary numbers, algorithms and data compression, separated from the distractions and technical details we usually see with computers.

Construction Management Degree

Discover one hundred great experiments that will let kids construct, play, learn and grow. Best of all, students are studying the amazing fundamentals of engineering in an engaging way.

Critical Thinking Puzzles

Looking for some puzzles that will turn on the STEM while providing higher level thinking skills for students? Check out these puzzles that can be used to allow students to think outside the box while promoting collaboration.

C-SPAN

Enhances the teaching of social studies through C-SPAN's primary source programming and websites.

Cyberpatriot

This premier national high school cyber defense competition was created by the Air Force Association. Its mission is to inspire high school students toward careers in cyber security or other science, technology, engineering, and mathematics.

DIY

A great way for kids to get skills, innovate, and meet others who share the same passions Kids can make their own portfolio where they share what they make and do. They also earn embroidered skill patches for completing sets of challenges. Educators may wish to consider starting a DIY Club or DIY Classroom.

The Economic Rebound: It Isn't What You Think

An article from Wired magazine describing the emergence of a new sector of "smart" jobs, focusing on computer engineering.

eCYBERMISSION

This is a web-based Science, Technology, Engineering and Mathematics competition for 6th, 7th, 8th and 9th grade teams. Student teams propose a solution to a real problem in their community and compete for State, Regional and National Awards. This activity challenges students to explore how Science, Technology, Engineering and Mathematics work in their world.

EIE

Engineering is Elementary (EIE) supports educators and children with curricula and professional development that develop engineering literacy. EIE serves children and educators in grades K- 8 with research-based, teacher-tested curriculum materials for schools and out-of-school time programs. They also help teachers build skills and confidence in teaching engineering and technology in their professional development workshops.

Engineer Your Life

A guide to engineering careers for high school girls including profiles on current engineering jobs and guides for counselors and parents.

Figure This

This engaging website demonstrates challenging middle school mathematics and emphasizes the importance of high-quality math education for all students. While it was created to allow for family interaction, it is also figures into the STEM classroom. The site allows students to have the opportunity to face some every day real life math challenges.

Flipping the Classroom with Dr. Lodge McCammon

Transform your teaching with this "1-take" video approach. Dr. McCammon provides practical strategies that can be implemented to increase valuable classroom time while meeting the needs of diverse learners.

FUSE

Discover this new kind of interest-driven learning experience being developed by researchers at Northwestern University. Their goal is to engage pre-teens and teens in science, technology, engineering, arts/design, and mathematics (STEAM) topics while fostering the development of important 21st century skills. Along with the 4 C's, this means adaptive problem solving, creativity, self-directed learning, persistence, and grit.

Google Earth Blog

Google Earth Blog is dedicated to sharing the best news, interesting sights, technology, and happenings for Google Earth.

The Harnessed Atom

Take a moment to explore this middle school science, technology, engineering, and math (STEM) curriculum extension that focuses on nuclear science and energy. It offers teachers accurate, unbiased, and up-to-date information on the roles that energy and nuclear science play in the world. The curriculum includes essential principles and fundamental concepts of energy science.

HHMI BioInteractive

It is through innovative science education programs that HHMI seeks to strengthen education in biology and related sciences from elementary school to graduate studies and beyond. Educators can find a wealth of information and resources including sources from Biology, Chemistry, Physiology, and even 3D Printing. There is something for just about any STEM classroom ready to engage students.

How Things Fly

A site with engaging activities, simulations, and information that answers an age-old question. This excellent online exhibit is provided to flight enthusiasts by the Smithsonian National Air and Space Museum.

International Technology and Engineering Educators Association Teacher Resources

Professional organization for technology, innovation, design and engineering educators; features a wide range of resources and links to teacher resources sites.

Junior Science and Humanities Symposia Program

JSHS has a mission to challenge and engage students (Grades 9-12) in the STEM disciplines. Individual students compete for scholarships and recognition by participating in research.

Kidwind

Educators are invited to browse through countless short videos, PowerPoint presentations, hands-on lessons, and student-friendly online reading that will allow students to begin learning about renewable energy. Every one of these resources is completely free and here for teachers and students to use and enjoy.

The Lawrence Hall of Science

Interactive lessons and activities where kids can use their hands, feet, eyes, ears, brain, imagination and cool tools to experiment, design, test and discover amazing things about the world around them. Additional teacher resources are also available.

The Lunar and Planetary Institute

The Lunar and Planetary Institute has a wonderful collection of resources for teachers as part of their website. The link provided is a searchable data base of resource from their programs, workshops, field trips, and products. They include activities, exhibits, spectrometers, power points, recommended Web sites, and more. They continue to add resources their wonderful collection.

Lure of Labyrinth

Your students will enjoy this digital game for middle-school pre-algebra students. It includes a wealth of intriguing math-based puzzles wrapped into an exciting narrative game in which students work to find their lost pet while saving the world from monsters! Best of all, it is linked to both Common Core and national (NCTM) standards. You will find that the game gives students a chance to actually think like mathematicians.

Mathematical Imagery

Visit amazing galleries that express math in the design of Gothic cathedrals, Rose windows, oriental rugs, mosaics and tiles to name a few. Explore geometric forms that were fundamental to the cubists and many abstract expressionists. See the math in tessellations, deformations, reflections, Platonic solids, spirals, symmetry, and the hyperbolic plane.

MathSite

You will enjoy this amazing interactive journey in math. The exhibits found at MathSite are intended for people of all ages who are interested in or are curious about mathematics. No specialized mathematical knowledge or special expertise is assumed. You will find it a place to see, hear, and do mathematics.

Minnesota STEM Initiative

Statewide initiative that provides resources, links, interactives and more to encourage students to explore STEM topics and teachers to inspire students.

MIT and Khan Science

Khan has so much more than Math, in fact visit this Science site that includes resources with Khan Partner MIT K-12. Here you will find great lessons involving Physics, Natural Science, Resources, and Measurement. This is an area that may just help you flip your STEM classroom.

MIT K12

This site was built around a simple idea: K12 educators and MIT should be working together to make movies for K12 students. Educators submit ideas for experiments or demonstrations they would like to see an MIT student perform and explain in a short video. MIT students can then "check out" these assignments or they can come up with their own ideas and check them out themselves. The result is an amazing K12 STEM video online to be used in the classroom.

[mn-stem.com](#)

An education website to help students discover firsthand how their participation in certain STEM coursework can lead directly to exciting and rewarding careers.

[My Big Campus](#)

An academic social learning platform for students that is part social network, part LMS and part professional development.

[NASA - For Educators](#)

Provides STEM resources for grades K-12 including lesson plans, teacher guides, classroom activities, video clips, games and more for teachers and students.

[Nasa Quest](#)

The NASA Quest Challenges are free Web-based, interactive explorations. They are designed to engage students in authentic scientific and engineering processes. These real life solutions relate to issues encountered daily by NASA personnel giving students an authenticity to learning.

[National Center for the Advancement of STEM Education](#)

Provides resources to schools, teachers and students to increase the interest and engagement of young people in STEM.

[National Council of Teachers of Mathematics](#)

The National Council of Teachers of Mathematics is a public voice of mathematics education, supporting teachers to ensure equitable mathematics learning of the highest quality for all students through vision, leadership, professional development, and research

[National Engineers Week 2013](#)

Engineers Week celebrates the positive contributions engineers make to society and is a catalyst for outreach across the country to kids and adults alike.

[National Math and Science Initiative: Designing for Scale through Replication of Existing Programs \(NMSI\)](#)

Identifies proven projects related to math and science with the potential for wide-spread success, particularly those focused on producing strong math and science teachers, strengthening existing teachers' skills, and expanding the pipeline of STEM capable students.

[National Science Digital Library](#)

NSDL is the National Science Foundation's online library of resources and collections for science, technology, engineering, and mathematics education and research.

[National Science Foundation Classroom Resources](#)

A diverse collection of lessons and web resources for classroom teachers, students, and families from the National Science Digital Library.

[National Science Foundation Engineering Resources](#)

Lessons and web resources aimed at classroom teachers, students and families to promote interest in engineering.

[National Science Teachers Associate \(NSTA\)](#)

Professional organization committed to science education and promoting excellence and innovation in science teaching with thousands of products and services available to science teachers nationwide.

[National Stem Foundation](#)

The National Stem Foundation is committed to promoting STEM education by serving educational institutions and organizations.

[National STEM Video Game Challenge](#)

You and your students will enjoy this site inspired by the Educate to Innovate Campaign to promote a renewed focus on Science, Technology, Engineering, and Math (STEM) education. The National STEM Video Game Challenge is a multi-year competition whose goal is to motivate interest in STEM learning among America's youth by tapping into students' natural passion for playing and making video games.

[Our Future Demands - STEM](#)

An article by Microsoft promoting the education of STEM. The article illustrates that, over the next decade, there will be a significant shortage of qualified college graduates to fill STEM careers in the United States.

[PBLU](#)

A wonderful site from BIE... known for Project Based learning. Educators can sign up for free online professional development in order to learn how to make PBL happen in their STEM classroom. There is also a small collection of projects that are growing. PBL can provide the process for delivering STEM content.

[Pennsylvania STEM Initiative](#)

Statewide effort designed to establish a network of partners and programs that support the development and deployment of STEM education and workforce development.

Physics Central

Site allows teachers and students to jump out of the textbook and bring the real world and physics together in your classroom.

Pioneers of Flight

This is an engaging online exhibit that allows exploration of aviation's amazing past. Participants can see how innovation and the STEM fields have been an important part of aviation history.

Plus Magazine

An online digital online magazine making real world sense out of Math. Another plus... it is free. Most important it is all about the discipline of Mathematics. This is a wonderful resource that will bring the authentic world of math to your students.

Project Breaker

Discover a mission to drive social innovation and alternative learning by mobilizing interdisciplinary teams of young creative collaborators to help solve the world's most pressing problems. Project Breaker connects young people with global thought leaders and industry experts to answer challenges like literacy, urban agriculture, STEM, and other technology for civic engagement. Students engage in creative problem-solving design process and teach the entrepreneurial skills necessary to transform ideas into businesses.

Pulse of the Planet

An online streaming site that provides its listeners with a two-minute sound portrait of Planet Earth, tracking the rhythms of nature, culture and science worldwide, blending interviews with extraordinary natural sound.

Real World Design Challenges

RWDC is an annual competition that provides high school students, grades 9-12, the opportunity to work on real world engineering challenges in a team environment. Student teams address a challenge that confronts our nation's leading industries. Students utilize professional engineering software to develop their solutions and also generate presentations that convincingly demonstrate the value of their solutions.

School Science and Mathematics Association (SSMA)

An inclusive professional community of researchers and teachers who promote research, scholarship, and practice that improves school science and mathematics and advances the integration of science and mathematics

Science Update

This is an amazing 60-second feature radio show covering the latest discoveries in science, technology and medicine. Science Update answers listeners' science questions, phoned in to a toll-free answer line, 1-800-WHY-ISIT (949-4748), or submitted to the online form. A week's worth of Science Update news briefs is available for download as the Science Update Podcast.

SciJourner

Teens have the opportunity to engage in science through some amazing thought provoking science journalism. Interesting reading that connects STEM with CommonCore literacy.

Science Netlinks

An amazing K-12 science education resource produced by AAAS. Discover free teaching tools, interactives, podcasts, and hands-on activities. Lessons and activities can be printed or used online. Many of the interactive, e-sheets, and tools work on the interactive white board, in a computer lab, or a 1 to 1 program.

Science, Technology, Engineering and Mathematics (STEM) Education Coalition

The STEM Education Coalition works aggressively to raise awareness in Congress, the Administration, and other organizations about the critical role that STEM education plays in enabling the U.S. to remain the economic and technological leader of the global marketplace of the 21st century.

ScreenCastle

A free site that allows you to create and save screencasts to use in your class. A screencast is a digital recording of a computer screen.

Secret Lives of Wild Animals

Secret Lives of Wild Animals - This is a wonderful website for children that features special creature cams - videos from the animal's viewpoint. Through this NSF portal, students can explore through modern technologies intimate glimpses of rarely seen behaviors of wild animals.

Siemens We Can Change The World Challenge

Welcome to the premier national environmental sustainability competition for grades K-12 students. Through project-based learning, students learn about science and conservation while creating solutions that impact their planet.

Skate Board Science

Students like the idea of the excitement that skateboarding brings. Perhaps they do not know the Physics that applies to Skateboarding. Speed through an exciting activity provided by the Exploratorium. You and your students will discover STEM in the fast lane!

Society for Science & the Public: Student and Teacher Program Index

With more than 300 programs listed, this site offers a comprehensive catalog of science, mathematics and engineering enrichment programs for pre-college students and teachers.

STEM and Our Planet

The environment is a compelling context for teaching and engaging our students in science, technology, engineering and math (STEM).

STEM Connect

Real-world STEM curriculum and career development resources from Discovery Education highlighting the connections among science, technology, engineering and math.

Stemconnector.org

With more than 5000 STEM stakeholders' profiles, its purpose is to map the STEM Education activity of organizations and all states.

The STEM Dilemma

Promoting STEM subjects is a national priority to keep America competitive in the 21st century. This infographic displays the dilemma.

STEM Education on Facebook

An online Facebook community for the sharing of STEM school resources for educators, parents, and students.

STEM Education Resource Center

Provides a variety of science, technology, engineering and math resources including free, self-paced modules for teachers.

STEM for ALL

A project dedicated to expanding the integration of science, technology, engineering, and math (STEM) content into out-of-school time programs across the country.

STEM Works

A resource for teachers, mentors, parents, STEM professionals, volunteers, and everyone passionate about getting children eager to learn about science, technology, engineering, and math.

Smithsonian

Serves as a laboratory to create models and methods of innovative informal education and link them to the formal education system.

Suffolk Math

Established in the United Kingdom, with the aim of providing up-to-date resources and documents to support the high quality teaching of Mathematics. On this site, educators will discover mathematical PBL ideas, scaffolding activities and more.

Sunrise

Virtual learning can be considered 3D learning without boundaries. Explore this amazing technology that allows you to step into an interactive environment full of information. It might be visiting New York, exploring the human cell, flying through the Solar System, or traveling back in time to Ancient Egypt. Experiencing something in real-time 3D allows any subject to become more understandable. Complex ideas soon become accessible and understandable.

Teacher Center - STEM Connect

STEM Connect is the captivating real-world STEM curriculum and career development resource from Discovery Education.

Teach Engineering

This is a comprehensive collaborative project between faculty, students and teachers associated with five founding partner universities, with NSF National Science Foundation funding. This real world collection continues to grow and evolve with new additions submitted from more than 50 additional contributors, a cadre of volunteer teacher and engineer reviewers, and feedback from teachers who use the curricula in their classrooms.

Teachers First

Serves as a laboratory to create models and methods of innovative informal education and link them to the formal education system.

Teachers Try Science

Provides teachers free and engaging lessons, along with teaching strategies and resources, which are designed to spark students' interest in science, technology, engineering and math (STEM). The site also features collaboration tools to enable teachers to discuss and share effective instructional practices. Access lesson plans that allow students to create water filters, design earthquake-proof structures, explore vertical farms, and much more. Also, find professional development resources such as a video on differentiated instruction or a tutorial on what engineering might look like in your classroom.

Ted-Ed

TED-Ed's commitment to creating lessons worth sharing is an extension of TED's mission of spreading great ideas through its amazing talks. Within TED-Ed's growing library of lessons, you will find carefully curated educational

videos, some STEM, many of which represent collaborations between talented educators and animators nominated through the TED-Ed platform.

Thinkfinity

Offers lesson plans, activities and interactives to help educators build a cross-curricular classroom.

Tryengineering

This website is all about engineering and engineering careers. It provides information that allows students to discover engineering in fun and engaging ways. It also delivers career pathway advice and answers that are important to students as they consider engineering.

Understanding Science... How Science Really Works

Discover this assembly of resources to help educators increase student understanding of nature and process of science. There is a collection of wonderful lesson plans, teaching tips, and pedagogical strategies. You can also visit a Teacher's Lounge or explore the all-level resources. It is fun to discover how science really works.

U.S. EPA Educational Resources for Teachers and Students

Collection of information, resources and publications, and links to awards, grants, workshops, conferences and other programs.

Organizations & Associations

AAAS

The American Association for the Advancement of Science is an international non-profit organization dedicated to advancing science for the benefit of all people. Be sure to read the area entitled enhancing education for some great education resources.

Achieve: Generation Science Standards

Investigate a site that makes available some of the most comprehensive and advanced science standards. Through a collaborative, state-led process managed by Achieve, new K-12 science standards have been developed that are rich in content and practice, arranged in a coherent manner across disciplines and grades to finally provide all students an internationally benchmarked science education. The NGSS is based on the Framework for K-12 Science Education which was developed by the National Research Council.

Afterschool Alliance

This organization realizes that getting funding and long-term sustainability for STEM programs can feel daunting. They have put together resources specifically for STEM afterschool programs. Also you'll find more tools in their Funding and Sustainability toolbox.

American Mathematical Society

The Society's programs and services for its members and the global mathematical community includes many facets. AMS provides professional programs; publications; meetings and conferences; support for young scholars programs; tools such as MRef for researchers and authors; and a Public Awareness Office that provides resources to members, students, teachers, the media, and the general public.

BIE

The BUCK Institute (BIE) is a nonprofit organization that is a world leader in promoting, providing resources, and training teachers in PBL (Project Based Learning). It promotes authenticity in student work and the crossing of disciplines such as STEM in order to show connections as students learn by doing.

Center for K12 STEM Education

The K-12 STEM education programs work with articulated science and math learning standards, the new Common Core standards and emerging standards in engineering, technology and other disciplines. This outreach from the NYU Polytechnic School of Engineering engage teachers directly in STEM focused programs and initiatives.

Change the Equation

Change the Equation (CTEq) is a nonprofit, nonpartisan, CEO-led initiative that is mobilizing the business community to improve the quality of science, technology, engineering and mathematics (STEM) learning in the United States. One interesting one is the vital signs of STEM that gives a state by state report along with STEMistics and the STEM Data Base.

Click To Science

The basic foundation of Click2Science is their 20 Skills to Make STEM Click. These are skills they claim are necessary to implement science effectively in an out-of-school time settings. Click2Science really is an indispensable resource for staff working directly with youth and for coaches and trainers working with staff. It is also a resource that classroom teachers may just want to get some STEM ideas from.

The Coalition for Science after School

The National After School Science Directory is a searchable database. It is designed to increase access to high-quality science, technology, engineering and math (STEM) education beyond the classroom for youth and families across the nation. This Directory houses thousands of STEM opportunities, submitted by science centers, museums, schools and other youth-serving organizations.

The Conrad Foundation

This is a program for high school students and their coaches (teachers, parents) to Get Their Genius On. Students use science, technology, and engineering and math skills as teams develop innovative products to help solve global and local problems while supporting global sustainability. The Conrad Challenge matches participants with world-renowned scientists, engineers and entrepreneurs as mentors.

Discover Engineering

This organization coalition of volunteer engineer professionals works together to celebrate engineering and give students hands-on experiences with engineering.

Engineer Your Life

This engaging website is the centerpiece of the national campaign, and is meant for high school girls and the adults in their lives (parents, counselors, teachers, and other educators) who want to learn more about what life and work are like for engineers. It is a great place to explore outstanding engineering possibilities.

iEARN

International nonprofit organization dedicated to global project initiatives between classrooms across the globe. Many included projects focused on world STEM related issues.

ITEEA

This organization known as the International Technology and Engineering Educators Association has a strong emphasis on STEM education. It is a mission of ITEEA to strengthen education through leadership, professional development, membership services, publications, and classroom activities.

Flex Algebra

Are you looking for an open source Algebra book that provides interactivity and covers those important standards? Then check out this free resource from the CK12 Flex Foundation. Best of all you can add and remix to suit the needs of your students and district.

Girlstart

This is an organization that has a mission to empower girls in the fields of Science, Technology, Engineering, and Math. This link brings educators to a set of online modules that have been created to get girls involved in STEM activities.

Global Cardboard Challenge

Discover this amazing site that invites you and your students to explore and innovate with cardboard. This is a STEM possibility that almost any class can do regardless of budget. Explore the site and then dream of the possibilities in your STEM classroom.

Instructables For Teachers

Instructables supports teachers by providing free pro memberships along with some awesome project ideas for any classroom. Educators will find plug and play hands-on projects that can supplement a STEM curriculum while facilitating student innovation and creativity.

Information Society for the Information Age

Society for information professionals leading the search for new and better theories, techniques, and technologies to improve access to information.

Institute of Play

This Institute is interested in games and play as complex eco-systems extending beyond the game space to involve networks of people in a variety of roles and rich interactions. It believes that Learning represents just one activity within this larger, highly engaging system. Such systems type thinking plays a role in STEM education.

International Technology and Engineering Educators Association

Professional organization for technology, innovation, design, and engineering educators. Mission is to promote technological literacy for all by supporting the teaching of technology and engineering and promoting the professionalism of those engaged in these pursuits

National Academies of Science

The NAS is committed to furthering science in America, and its members are active contributors to the international scientific community. Discover news, issues, resources, and policies devoted to promoting science across the nation.

National Science Foundation

Independent federal agency created by Congress in 1950 "to promote the progress of science; to advance the national health, prosperity, and welfare; to secure the national defense."

National Council of Teachers of Mathematics

Public voice of mathematics education supporting teachers to ensure equitable mathematics learning of the highest quality for all students through vision, leadership, professional development and research.

National Science Teachers Association

Member-driven organization that publishes books and journals for science teachers from kindergarten through college. Additionally, NSTA provides ways for science teachers to connect with one another, while informing Congress and the public on vital questions affecting science literacy and a well-educated workforce.

NICERC

The National Integrated Cyber Education Research Center focuses on curriculum design, professional development, and collaboration in K-12 education. It is a project-driven curricula that creates a context for the content at every level of learning. Professional development programs for K-12 teachers enable them to motivate creativity and innovation in students through problem-solving, critical thinking, and communication.

NSDL

The National Science Digital Library has some outstanding resources that include numerous links to some great STEM programs and organizations.

Oak Ridge Associated Universities

University consortium with a strategic partnership with Oak Ridge National Laboratory (ORNL), that brings together university faculty and students to collaborate on major scientific initiatives that help keep America on the leading edge of science and technology.

One World Education

This organization provides middle and high school Common Core literacy programs and allows for the publishing of student essays on cultural, STEM, and global issues. This facilitation allows for non-fiction reading and writing, while promoting peer-to-peer learning, and building college and career writing skills.

ORAU Center For Science Education

This organization offers educators the opportunity to participate in STEM programs that enhance classroom teaching. During the summer months, ORAU offers a variety of programs to provide middle and high school educators the opportunity to engage in hands-on activities that enhance their STEM curriculum.

Roots and Shoots

Jane Goodall's Roots & Shoots is a youth-led community action and learning program of the Jane Goodall Institute. This amazing program builds on the power and responsibility for creating community-based solutions to big challenges. Through the program, young people map their community to identify specific challenges their neighborhoods face. From there, they prioritize the problems, develop a plan for a solution, and take action which engages students in authentic learning.

Siemens Foundation

The Siemens Foundation provides more than \$7 million annually in support of educational initiatives in the areas of science, technology, engineering and math in the United States. Additionally, Siemens supports outstanding students and recognizes the teachers and schools that inspire their excellence. The Foundation helps nurture tomorrow's scientists and engineers. The Foundation's mission is based on the culture of innovation, research and educational support that is the hallmark of Siemens' U.S. companies and its parent company, Siemens AG.

Smithsonian National Museum of Natural History

The Museum is dedicated to inspiring curiosity, discovery, and learning about the natural world through its unparalleled research, collections, exhibitions, and education outreach programs.

STEM to STEAM

This organization is an advocate for STEAM education. It contains resources and information that allows educators to promote the Arts in STEM education (STEAM). An objective of the STEAM movement is to transform research policy with a goal place Art + Design at the center of STEM.

STEM Ed

STEM Ed is the STEM Education Institute at the University of Massachusetts Amherst. It was founded in 1995; its predecessors began in 1986 to work to improve STEM education in K12 and higher education.

Successful STEM Education

This National Science Foundation initiative provides information, events, and resources that highlight promising practices and tools in support of effective K-12 STEM education.

TedEd Chemistry

While TED has some amazing videos worth watching, TedEd has some videos worth putting into your STEM Lessons. In fact these go beyond the video and provide the entire lesson. You can even learn how to contribute!

The College Board

A not-for-profit membership organization committed to excellence and equity in education. Our mission is to connect students to college success and opportunity.

Triangle STEM Coalition

The Triangle Coalition for STEM Education is passionate about improving science, technology, engineering, and mathematics education for all students. Since 1985, Triangle Coalition, a 501c (3) nonprofit organization, has worked in conjunction with its members to lead the nation in advocating for better STEM education. They also proudly administer the Albert Einstein Distinguished Educator Fellowship Program on behalf of the Department of Energy in partnership with other participating federal agencies.

U.S. Environmental Protection Agency

An agency that houses a variety of federal research, monitoring, standard-setting and enforcement activities to ensure environmental protection. Since its inception, EPA has been working for a cleaner, healthier environment for the American people.